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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/664,332

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EXAMINER

SELLERS, ROBERT E

ART UNIT

PAPER NUMBER

1765

MAIL DATE

DELIVERY MODE

05/09/2011

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/664,332	<b>Applicant(s)</b> HAYASHI, NORIYA	
	<b>Examiner</b> ROBERT SELLERS	<b>Art Unit</b> 1765	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 April 2011.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,6-8,10,12,22 and 27-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6-8, 10, 12, 22 and 27-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 29 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1. There is no antecedent basis for the “binary or higher” system of the polymerization initiator of claim 29 in claim 1 wherefrom it depends wherein the phrase has been deleted in the amendment filed April 25, 2011.

The text of section 103(a) of Title 35, U.S. Code not included in this action can be found in the non-Final rejection mailed April 24, 2002.

Claims 1, 2, 6-8, 10, 12, 22 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamazu et al. Patent No. 5,359,017; Buchwalter et al. Patent No. 5,879,859; Starkey Patent No. 5,384,339 and Green Patent No. 4,252,592

***In view of*** Green et al. Patent No. 4,299,938.

2. Independent claims 1 and 27 have been amended to narrow the ratio of curing agent:photopolymerizable resin to from 0.3:1 to the newly claimed maximum of 1.0:1 as supported by page 45, line 7 of the specification as well as the proportion of photopolymerization initiator per 100 parts by weight of the whole weight of the other components (phr) to from the newly claimed 0.5 described on page 49, line 19 to 6.0 phr. The previously claimed aforementioned proportion ranges have been maintained in independent claim 28. Therefore, the ensuing comments are only required to be applicable to claims 1, 2, 6-8, 10, 12, 22 and 27.

3. Hamazu et al. (col. 3, lines 56-61, from 0.01 to 20 phr), Buchwalter et al. (col. 7, lines 2-4, from about 0.5% to about 10% by weight), Starkey (col. 13, lines 10-21, from 0.1 to 4 parts by weight) and Green (col. 8, lines 9-12, from 0.1 to 20 phr) each espouse proportions of photopolymerization initiator encompassing the claimed parameters as set forth in the Examiner's answer filed December 21, 2005 (page 11, second paragraph) and affirmed by the Board of Patent Appeals and Interferences (BPAI or the Board) in the decision rendered May 11, 2010.

4. According to the BPAI affirmance on page 7, the second paragraph:

"With respect to the second to last clause of claim 1, we find that the Examiner provided a reasonable basis for concluding that it would have been obvious to have used the anhydride curing agent of Hamazu in the amount claimed, namely, Starkey's explicit disclosure of the desirable properties achieved by using a curing agent in an amount of from 0.01 to 10 parts by weight of the resin (FF 5), which range has been demonstrated by the Examiner to overlap Appellant's claimed range (FF 6)."

5. The Board also ruled on page 7, the last paragraph, lines 5-7 that “[a]ppellant’s experimental evidence is not commensurate in scope with the claimed invention and, therefore, fails to establish criticality in the ranges recited in the last two clauses of claim 1.”

(The second to last clause of claim 1 newly requires from 0.3 to 1.0 mole of curing agent per mol of photopolymerizable resin. The last two clauses newly denotes from 0.5 to 6.0 phr of photopolymerization initiator and from 10 to 100% by weight of photo-thermopolymerization initiator.)

The rejection is maintained for the reasons of record set forth in the previous Office actions, particularly the Examiner's answer. The arguments filed April 25, 2011 have been considered but are unpersuasive.

6. None of Examples 1-21 on pages 65-75 of the specification nor Declaration III filed December 27, 2004 analyzed in the Examiner's answer on page 16, the second paragraph, establishes the criticality of the claimed molar ratio range of curing agent:photopolymerizable resin at the newly claimed maximum proportion throughout a representative sampling of the claimed acid anhydride including such structurally and quantitatively functionally diverse species as saturated cycloaliphatic, aromatic, copolymeric and dianhydride (page 41, Table 6) as argued in the Examiner's answer on page 15, the second paragraph.

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7. Furthermore, the testing of a single species of epoxy resin within the broadly claimed photopolymerizable resin does not confer patentability on such structurally and functionally diverse species listed on page 26, lines 4-17 including even more myriad types according to page 26, lines 17-18 (Examiner's answer, page 14, last paragraph).

8. Although Example 3 on page 67 shows the complete curing of a composition containing the newly claimed minimum of 0.5 phr of Sun Aid SI-60 cationic photo-polymerization initiator within claimed Formula (IV) according to Example 2 on page 66, the testing of the lower limit does not establish the criticality of the claimed upper limit of 6.0 phr, especially considering the revelation in Starkey that exceeding 4 parts by weight causes the problems of precipitation of crystals or insufficient hardening of the lower part occurring weight utilizing a photopolymerization initiator such as an aromatic sulfonium halogen-containing complex ion salt (col. 12, lines 35-36 and col. 13, lines 17-21) as explained in the Examiner's answer on page 14, the first paragraph.

9. Furthermore, the evidence is not commensurate in scope with the claims in the absence of the testing of the structurally diverse naphthylmethyl-containing sulfonium salt of Formula (IV') (Examiner's answer, page 14, second paragraph).

10. Buchwalter et al. (col. 9, Example 1, lines 53-55) exemplifies a calculated molar ratio of curing agent:photopolymerizable resin of 0.93:1 as explained on page 6, the first paragraph of the Examiner's answer.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

(571) 272-1093 (Fax No. (571)-273-8300)  
Monday to Friday, 9:30 to 6:00

/Robert Sellers/  
Primary Examiner  
Art Unit 1765

rs  
5/6/2011